

BABYLONIAN SYSTEM

positional system
with place values

Base 60

digits range from 0 to 59

Symbols

$$\triangle = 0$$

$$\nabla = 1$$

$$< = 10$$

Place Values

$$\overline{60^3} = 216,000\text{'s}$$

$$\overline{60^2} = 3,600\text{'s}$$

$$\overline{60^1} = 60\text{'s}$$

$$\overline{60^0} = 1\text{'s}$$

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$$\textcircled{<<<< \nabla \nabla \nabla} \quad \text{or} \quad \begin{array}{l} << \nabla \nabla \\ << \nabla \end{array}$$

Write each numeral in Base Ten.

$$\begin{array}{rcl} \text{A)} & \begin{array}{c} \nabla \\ \hline 60\text{'s} \end{array} & \begin{array}{c} << \nabla \\ \hline 1\text{'s} \end{array} & \begin{array}{r} 1 \times 60 = 60 \\ 21 \times 1 = +21 \\ \hline \boxed{81} \end{array} \end{array}$$

$$\begin{array}{rcl} \text{B)} & \begin{array}{c} <<< \\ \hline 60\text{'s} \end{array} & \begin{array}{c} \triangle \\ \hline 1\text{'s} \end{array} & \begin{array}{r} 30 \times 60 = 1800 \\ 0 \times 1 = + 0 \\ \hline \boxed{1800} \end{array} \end{array}$$

c) $\frac{<<\nabla\nabla}{3600's} < \frac{\nabla}{60's} \frac{\nabla}{1's}$ $22 \times 3600 = 79200$
 $10 \times 60 = 600$
 $1 \times 1 = 1$
 $\boxed{79,801}$

Write each number in Babylonian.

A) 93

~~$\frac{\times}{3600's}$~~ $\frac{\nabla}{60's}$ $\frac{<<<\nabla\nabla}{1's}$ $\begin{array}{r} 1 \\ 60 \overline{) 93} \\ - 60 \\ \hline 33 \end{array}$ $\begin{array}{r} 33 \\ 1 \overline{) 33} \\ - 33 \\ \hline 0 \checkmark \end{array}$
 $\boxed{\nabla <<<\nabla\nabla}$

B) 2408

~~$\frac{\times}{3600's}$~~ $\frac{<<<<}{60's}$ $\frac{\nabla\nabla\nabla\nabla\nabla\nabla\nabla\nabla}{1's}$ $\begin{array}{r} 40 \\ 60 \overline{) 2408} \\ - 240 \downarrow \\ \hline 08 \end{array}$ $\begin{array}{r} 8 \\ 1 \overline{) 8} \\ - 8 \\ \hline 0 \checkmark \end{array}$
 $\boxed{<<<< \nabla\nabla\nabla\nabla\nabla\nabla\nabla\nabla}$

C) 4259

~~$\frac{\times}{216,000's}$~~ $\frac{\nabla}{3600's}$ $\frac{<}{60's}$ $\frac{<<<<<\nabla\nabla\nabla\nabla\nabla\nabla\nabla\nabla\nabla\nabla}{1's}$
 $\begin{array}{r} 1 \\ 3600 \overline{) 4259} \\ - 3600 \\ \hline 659 \end{array}$ $\begin{array}{r} 10 \\ 60 \overline{) 659} \\ - 600 \\ \hline 59 \end{array}$ $\begin{array}{r} 59 \\ 1 \overline{) 59} \\ - 59 \\ \hline 0 \checkmark \end{array}$
 $\boxed{\nabla < <<<< \nabla\nabla\nabla\nabla\nabla\nabla\nabla\nabla\nabla\nabla}$